THE

JOURNAL OF GAS LIGHTING.

PUBLISHED QUARTERLY,

WITH AN INTERMEDIATE SUPPLEMENT ON THE 10TH OF EACH INTERVENING MONTH.

No. 8.] LONDON, SEPTEMBER 10, 1849. [SUPPLEMENT { Price 4d. Stamped. „ 3d. Unstamped.

WM. PARKINSON
(Successor to the late Samuel Crosley),
COTTAGE-LANE, CITY-ROAD, LONDON,
Begs most respectfully to announce that he has, in addition to the continued manufacture of GAS METERS, commenced (under Patent) the manufacture of Meters for measuring Water, Spirits, &c.
N.B. These Meters are as simple and durable as the Gas Meter, and as correct as that instrument under the most careful manipulation.

BRYAN DONKIN and CO.'S Improved GAS VALVES (Registered). Messrs. Bryan Donkin and Co. solicit the attention of Directors and other Gentlemen connected with Gas Companies, to their improved GAS VALVES, which have been adopted and approved of by the principal Companies and Gas Engineers of London and elsewhere, on account of the advantages and greater security attained, and the more perfect adaptation to the purposes required.
As the Inventors consider the superiority of these Valves now fully proved, it remains simply to quote the prices:—

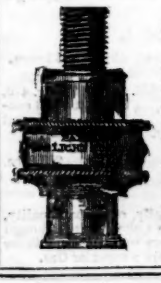
	Per in. diam.	Separate Spigot and Faucett Fittings. Per in. extra.
From 14 in. to 10 in., inclusive,	13s.	3s. 6d.
„ 9 in. to 4 in., „	14s.	2s. 6d.
„ 3 in. to 2 in., „	15s.	1s. 6d.

The above prices include an Indicator, for showing the extent to which the Valve is open.
Bryan Donkin and Co. also solicit the attention of the public to their newly-invented Registered SAFETY GAS VALVE, or SLIDE-COCK, for service mains. It is constructed with plane surfaces, presenting a straight and full-sized bore for the flow of gas, avoiding the cone and being as durable as the best slide-valves.
Engineers' Works, Grange-road, Bermondsey.

A. WRIGHT, Gas Engineer and Meter Manufacturer, 55, Millbank-street, near the Houses of Parliament, Westminster, respectfully calls the attention of Gas Companies and Engineers who are not yet provided with Station Meters to the fact that he has erected two of the largest machines of this kind in existence, the one for the Chartered Gas Company, London, the other for the Hibernia Gas Company, Dublin, for both of which he has obtained the highest testimonials.
To this branch of business A. W. devotes much attention, as well as to the Manufacture of all kinds of Experimental Machinery for Gas purposes.
Consumers' Meters of all sizes at the usual prices, with a liberal discount to wholesale purchasers.

TO Gas Companies, Water Companies, and Others.—TO BE DISPOSED OF, about NINETY 24-Inch MAIN PIPES, at — per ton.
Application for particulars as to price, &c., to be made to the Storekeeper at the Chartered Gas Light and Coke Company's Works, Horseferry-road, Westminster.—February, 1849.

PATENT GAS METER MANUFACTORY,
No. 66, Snow-hill, London.
WILLIAM SMITH, by the improvements he has made in the Wet Meter, and which he has secured by her Majesty's Royal Letters Patent, the accuracy of their registry is rendered certain by the introduction of the adjusting slide and hydraulic, whereby a Perfect Water Level is readily obtained, and the Hydraulic precludes the possibility of abstracting water from the meter by increased pressure or otherwise, thus surmounting the great desideratum of the Wet Meter. In his Patent Equitable Gas Meter neatness and strength are combined, the backs and fronts of the case being stamped by powerful machinery out of thick plate iron (tinned or galvanized); and the internal construction is of the best metal, which will resist the action of any impurity in the gas.
Old Meters may readily have the adjusting slide and hydraulic applied, thereby having accurate measurement assured.
Station Meters, Governors, &c., made on the shortest notice.



THE New Patent GAS LIGHT MONITOR, adapted to every description of Burner, and supplied at a cost placing it within the reach of every consumer of Gas, regulates the flame to any required height, economizing the consumption, and preventing the danger and inconvenience arising from the flaring and smoking of lights. It may be seen in daily use at the office of the Patentees, 20, King William-street, Charing-cross.

JOHN BARLOW begs respectfully to acquaint Directors and Managers of Gas and Water Works, and his Friends in general, that his BUSINESS is TRANSFERRED from the Wenlock Iron Works to the larger and more commodious Premises of Messrs. H. and M. D. Grissell, REGENT'S CANAL IRON WORKS, EAGLE WHARF-ROAD, LONDON, by whom he has been appointed AGENT; and where he trusts he may be favoured with a continuance of the patronage with which, for more than a quarter of a century, himself and his predecessors have been honoured.
A large assortment of Retorts, Pipes and Connections, Lamp-posts, Tubing, Borings, and every other similar article required for the use of Gas and Water Works, will be kept in stock; and contracts for Tanks, Gasholders, Roofs, Purifiers, Valves, &c., and Gas Works complete, executed on as advantageous terms as by country manufacturers. Machinery of all sorts, Mill Work, and Town Castings, made on the shortest notice.
London, September, 1849.

TO Gas Companies.—The Advertiser, who has been engaged for seven years in the making and repairs of Gas Meters, and in general fitting, is desirous of a SITUATION in a GAS WORK, or in a Manufactory, at home or abroad. He can be well recommended by his late employer.
Address A. B., 49, Wellington-street, Goswell-street, London.

CLEGG'S New Patent Gas Meter.
Price for one Light, £1.
No expense incurred in fixing the above Meter, neither is a stopcock required for the burner. Station Meters half the usual price.
24, REGENT-SQUARE, LONDON.

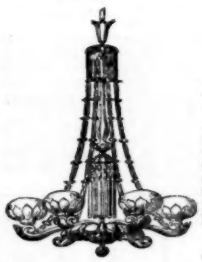
RUFFORD'S FIRE-BRICKS, RETORTS, CRUCIBLES, and CLAY. A large stock always on hand, and every description of Fire-proof goods carefully and promptly made to order.
FRANCIS TONGUE RUFFORD
(Sole Proprietor),
STOURBRIDGE.

Second Edition.—Ninth Thousand.
A LETTER to the Right Hon. the Earl of CARLISLE on the COST and SUPPLY of GAS in the METROPOLIS. By a CIVIL ENGINEER.
"He furnishes, to his credit we state it, as much statistics as can be conveniently contained in thirty-two octavo pages; and manfully grapples with some of the strongest cases put forward by the anti-monopolists. We thank the anonymous Civil Engineer for his facts and figures."—*Daily News*, Aug. 17.
London: W. Strange, 21, Paternoster-row; and all booksellers in town and country. Price 1s.; by post, 1s. 4d.

THOMAS EDGE, Patent Wet and Dry Gas Meter Works, Brass Foundry, Gas Fitting, and Chandelier Manufactory, WESTMINSTER. City Department, No. 6, POULTRY, CHEAPSIDE, LONDON.
Station Meters, Governors, Pressure Registers, Experimental Meters, and every description of Gas Apparatus, the accuracy of which may be fully relied upon.
Edge's Improved Portable Photometer—none like it. See JOURNAL OF GAS LIGHTING, June 11, 1849.
Edge's Triple Valve, both Hydraulic and Slide, for Station Meters, Governors, and Purifiers, or, indeed, for any Apparatus requiring a by-pass, being "*three valves in one*," and at two-thirds the cost of the ordinary slide-valves.
THOMAS EDGE begs to call the attention of Gas Companies to the following Improvements possessed by his Patent Meter, contrasted with the defects of the common Meter as generally made at the present time:—

DEFECTS IN OLD METER.
OLD INDEX.
Difficulty in reading off the quantity consumed.
Frequent mistakes and misunderstandings in consequence.
OLD VALVE AND FLOAT.
This often becomes a fixture by the corrosion of the guide-wires, and fails to show a want of water in the Meter, whereby the Company is a loser.
OLD SYPHON AND SIDE-PLUG.
The Gas Company can at any time be defrauded at these points.
Liability to fire and explosion when the Syphon-plug is left out and gas on, or to explode the meter when the gas is off.
By unscrewing the side-plug, water can be abstracted, so as to make the Meter register considerably less than it ought.

IMPROVEMENTS IN PATENT METER.
PATENT INDEX.
No difficulty at all. The Index is read off as a common row of figures.
PATENT VALVE AND FLOAT.
The above cannot possibly become fixed, as the connecting wire never can touch any contiguous part; consequently the Float must fall when the water decreases.
PATENT SYPHON AND WATER-BOX.
No possibility of abstracting Gas, inasmuch as the Syphon-plug is sealed off by the dip-pipe below the water-box.
No side-plug is required, so that the water cannot possibly be drawn off below its proper level.
Again, the gas need not be turned off, should the Meter require water while the lights are in use, which is necessarily the case with other meters, and by which the consumer is subjected to serious inconvenience.



F. & C. OSLER,
44, OXFORD-STREET, LONDON;
MANUFACTORY—BROAD-STREET, BIRMINGHAM,
Manufacturers of Glass Chandeliers, Glass Lustres, Table Glass, &c. &c.
ELEGANT CRYSTAL GLASS CHANDELIERS, FOR GAS
(Made from "REGISTERED" DESIGNS), with GLASS BRANCHES, &c.; suitable for DRAWING-ROOMS and BALL-ROOMS. From £4. 15s., upwards. The more extensive use of GAS in private dwellings has induced Messrs. OSLER to direct their particular attention to the manufacture of this class of articles—which, with a view to their general adoption, are offered at very moderate prices. Purchasers can select from a great variety of patterns, to which additions are being constantly made.
THEATRES, CONCERT, ASSEMBLY, AND BALL ROOMS LIGHTED BY ESTIMATE, ON THE LOWEST TERMS.

PATENT FLEXIBLE GAS TUBING.
JAMES LYNE HANCOCK'S Vulcanized Indiarubber Hose Pipes and Tubing. Manufactory (and Warehouse), Goswell-mews, Goswell-road, London.
Gas Companies, Engineers, Gas Fitters, and the Trade generally, are respectfully informed this Tubing is now manufactured to any size, from ¼ inch bore and upwards, in 100-feet lengths, and perfectly cylindrical, either with or without a spiral wire inside.
VULCANIZED GLAZED FLEXIBLE TUBING, from ¼ inch up to 1 inch diameter, made in 24-feet lengths; or, covered with silk or worsted, up to 100 feet.
VULCANIZED HOSE, for FIRE ENGINES, BREWERS' USE, and for standing great pressures (Rubber and Cloth combined), made to any length or size to fit the necessary screws, &c.
VULCANIZED INDIARUBBER AIR-TIGHT BAGS, made any size, for Gas Mains, with flexible tubes attached, and fitted with stopcocks complete.

CARTER'S Patent Safety Gas Valve or Main Cock.—Experience has demonstrated the superiority of this Invention as a substitute for the common Main Cock, which is so soon out of order, either becoming fixed or leaky, neither of which is likely to occur with these Valves. They have been several years in use in many of our largest establishments: in the Bank upwards of one thousand are fixed, where, as elsewhere, they are highly approved.
Many of the Gas Companies have adopted them for their Street Lamp Cocks, and thereby prevent the possibility of waste.
They are manufactured of all sizes, from 2-8 to 12 inches bore, and are cheaper than any other description of Cock now in use.
THOMAS LAMBERT and SON,
Patentees, corner of Short-street, New-cut, Lambeth, Manufacturers of Block Tin Tube, and every description of Gas, Steam, and Hydraulic Apparatus.

NEWSPAPER STAMP ONE PENNY JOURNAL OF GAS LIGHTING

WILLIAM SUGG, Gas Engineer and Manufacturer of Patent Wet and Dry Gas Meters, combining all the latest acknowledged improvements; Brass Founder, Gas Fitter, and Lamp Contractor; Manufacturer of all kinds of Plain and Ornamental Gas Apparatus, and Contractor for the Erection of Gas Works. Designs and Estimates submitted; Station Meters and Governors of any size.

Gas Meter and Apparatus Works, 19 and 20, Marsham-street, Westminster.

METER INDICES.

J. CLUER, Gas Meter, Index Maker, and Model Machinist, No. 1, Bowling-green-lane, Clerkenwell, London.

INDICES and all other Apparatus for Gas Meters of every size and kind, made on the shortest notice, of the best metal, and of superior workmanship.

IRISH MANUFACTURE.

JAMES GRAY and CO. continue to make every description of FIRE-BRICKS, TILES, and BLOCKS used in setting Retorts, all of the very best fire clay.

Irish Gas Companies can be supplied with as cheap and good an article, manufactured in their own country, as any they can import.

Fire-clay and Brick Works, Coal Island, near Dungannon, county of Tyrone, May 28, 1849.

N.B. Flooring, Ridge, and Oven Tiles, Water Pipes, Flue Linings, &c. &c.

COAL Tar for Sale.—The Carlisle Gas Company will receive Tenders, up to the 13th of September, for the whole of their COAL TAR for a period of one, two, or three years, from the 1st of October next. The price to be per gallon on the Company's premises. The Contractor to find casks, and pay all other expenses of cartage and removal, the Gas Company retaining the right of selling small quantities to their usual customers. The annual quantity generated will be about thirty thousand gallons. Tenders to be endorsed "Tender for Coal Tar."

Gas Works, Carlisle, July 26, 1849.

JOSEPH BOULTON, Gas Meter Manufacturer, No. 1, COPPICE-ROW, CLERKENWELL, LONDON, begs to call the attention of Gas Companies and the public in general to his improved GAS METER, containing all the latest improvements.

J. B. warrants all Meters to be manufactured of the best materials and workmanship, the wheels, &c., being of metal. Old Meters repaired on the lowest terms.

MESSRS. OAKES and CO., Alfreton Iron Works, Derbyshire, and Wenlock Iron Wharf, City-road, London, beg respectfully to inform Gas Companies and the Public, that the London Agency for the SALE of their CASTINGS is now transferred to Mr. ALFRED PENNY, who will always keep in stock at Wenlock Wharf a large supply of Retorts and Mouthpieces of different sizes, Socket and Flanch Pipes, Bends, Branches, Crosses, and Tees, Syphon Wells, Lamp-posts, &c. &c.; Fire Bricks, Tiles, and Clay, Iron Borings, and almost every article used in Gas and Water Works.

In calling attention to the above announcement, Mr. Penny begs to say that his best attention shall be given to any orders that may be entrusted to his care; and also to remind those interested in the matter, that Messrs. Oakes, from their long connection with Gas Companies, have, perhaps, the largest Stock of Patterns for Gas Apparatus of any house in the trade; and that their prices, taking into account the quality of their goods (being made of the best cold-blast iron), are unusually low.

FIRE Clay Gas Retorts.—The sub-scribers have for many years been extensive manufacturers of FIRE CLAY RETORTS, and supply most of the works in the centre and east coast of Scotland. They will guarantee their Retorts to last from one to two years, and to give satisfaction. They are cheaper than iron, carbonize coal more quickly, and with less fuel. Their Retorts may be seen at work at Poplar Gas Works, London.

Price £2 to £3, according to size.

Fire Bricks and all other Fire Clay Articles furnished of best manufacture, and at moderate prices.

FRASER and SANDERSON.

Inverkeithing, March 6, 1849.

Annual Expense of Retorts at the Dunfermline Gas Work, showing the difference of Expense betwixt Iron and Inverkeithing Clay Retorts.

To May, 1835, Iron Retorts used	. .	£161	1 10
1836,	Do. . .	154	17 9
1837,	Do. . .	167	17 0
1838, Iron, and Clay commenced		137	3 0
1839, Iron and Clay	. .	81	18 0
1840, Clay Retorts	. . .	20	5 0
1841,	Do. . . .	29	5 0
1842,	Do. . . .	22	10 0
1843,	Do. . . .	24	0 0
1844,	Do. . . .	19	2 10
1845,	Do. . . .	14	14 0

TO GAS COMPANIES.

JOHN EUNSON, Gas Engineer and Contractor for the Erection of Gas Works, continues to manufacture CLAY RETORTS upon the most approved principle, and of the best material.

Wolverhampton, May 5, 1849.

BRETTELL and WHITEHOUSE, late Brettell and Rufford, beg to inform Gas Companies and others requiring best STOURBRIDGE BRICKS and CLAY that they continue making all kinds of BRICKS, and warrant all their goods fully equal to any house in the trade.

Fire Brick Works, Stourbridge.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

CROLL and GLOVER, Patent Dry Gas Meter Manufacturers, Suffolk-street, CLERKENWELL-GREEN, LONDON, beg respectfully to call attention to the following extracts from testimonials in favour of their Meters. The respectability of the parties will be esteemed by all acquainted with gas matters as affording the most indubitable evidence of the superiority of their Patent Dry Gas Meters, proving that gas companies and gas consumers may rely on them for a just and unvarying registration, durability, and the absence of all trouble arising from condensation of water in the fittings, and the impossibility of their being stopped by freezing in the coldest climates.

CROLL and GLOVER take this opportunity of remarking to Gas Companies that the apprehension so generally entertained by them, viz., that if Dry Meters were introduced into their districts their Stock of Water Meters would be thrown on their hands, while this has not happened even with those Gas Companies who have for years back purchased none but Dry Meters; this apprehension ought to lead Gas Companies to a speedy investigation into the merits of Dry Meters, so that they may not, year after year, be increasing their stock of Water Meters, which they themselves apprehend must one day be thrown out of use.

CROLL and GLOVER humbly think that the following extracts prove that the merits of their Meter are entitled to prompt attention of Gas Companies.

Almost all the testimonials bear the date of November, 1848.

EXTRACTS.

"The Chartered Gas Company have purchased and fixed up above 2,000."—GEORGE LOWE, *Civil Engineer, F.R.S., &c., Consulting Engineer to the Chartered Gas Light and Coke Company, London.*

"We have in this district from seven to eight hundred, and are daily fixing more."—F. I. EVANS, *Superintendent at Chartered Gas Light and Coke Company's Station, Brick-lane.*

"I invariably found the flames perfectly steady, and the gas accurately measured."—A. H. STILL, *Superintendent at Chartered Gas Light and Coke Company's Station, St. Luke's.*

"I beg to state that out of 800 Meters of the square form, and anti-corrosive metal, I find only twenty have been entered in our return-book, chiefly for broken index-glasses. The company are continuing to purchase and fix up your Meters in considerable quantities."—WILLIAM MONRO, *General Superintendent and Engineer of the Phœnix Gas Light and Coke Company, London.*

"I have much pleasure in stating that the Meters we have received with your last improvements have given great satisfaction."—JOHN AIRD, *Superintendent of the Phœnix Gas Light and Coke Company's Station, Greenwich.*

"I have had some of them in use for nearly four years. In certain situations exposed to the influence of the climate I have found them to be the only description fit for use, as well as in confined and overheated situations, where the water in the Water Meters is acted upon by evaporation."—ROBERT LAING, *Secretary and Superintendent of the Independent Gas Light and Coke Company, London.*

"Having had, in all, up to the present time under my inspection 609 Meters of your manufacture, a very good opportunity has thus been afforded me of judging of their merits. The result of my observation in respect of registration and steadiness of light is, that the Meters have given perfect satisfaction."—D. METHVEN, *Engineer and Superintendent to the Commercial Gas Light and Coke Company, London.*

"The advantages which I have found attending the use of your Dry Gas Meters, in preference to the Wet Meters, are so important, that nothing would induce me to return to the use of the latter. As Station Meters yours have the additional advantage, that there is no water-line to attend to, or to be subject to neglect."—CHARLES DIXON, *Engineer of the Chichester Gas Light and Coke Company.*

"I have also had sufficient opportunity of knowing that they are not affected by the most severe frost, nor where one of them was fixed did I ever know of condensation taking place in the inside gas fittings of any premises."—SAMUEL PONTIFEX, *Manager, Winchester Gas Light and Coke Company.*

"We are now using your Meters solely."—CHARLES PURVES, *Manager, Gas Works, Gosport.*

"They are a substantial and good article, of superior workmanship and material; they do their work exceedingly well, and, after being once fixed, they occasion no further trouble. I assert that they do not alter in their measurement, as does the Water Meter."—J. THOMAS, *Manager, Consumers' Protective Gas Light Company, Woolwich.*

"Previous to using them I held theoretical objections, which I can now say have been removed, and their superiority as an instrument of unvarying measuring capacity has been fully established."—EDWARD H. THORMAN, *Superintendent of the West Ham Gas Company.*

"I have delayed giving my opinion of your Meters until I had had another winter's experience; and, notwithstanding some of them were placed in the open air, not one became fixed. We have had a short winter, but the frost is very severe."—P. T. W. de TIMMERMAN, *Director of the City of Leyden Gas Works.* January 26, 1849.

Station Meters, Station Governors, Pressure Registers, Experimental Meters, and Specific Gravity Apparatus.

CANNEL COAL.

JOHN HENDERSON and CO. respect-fully invite the attention of Managers of Gas-works to the annexed Report by Professor Fyfe upon their PARROT or CANNEL COAL, which continues to be shipped at Burntisland to any extent. Price 10s. per ton, f. o. b.

Apply to Messrs. R. W. KENNARD and Co., 67, Upper Thames-street, London; or to JAMES CONNEL, Shipping Agent, Burntisland.

Lochgelly Coal and Iron Works, by Burntisland, March, 1849.

REPORT ON THE VALUE OF LOCHGELLY PARROT COAL FOR THE MANUFACTURE OF GAS.

In the trials made with this Coal 14 lbs. of coal were carbonized. The quantity of gas given off was estimated by meter; the illuminating power of the gas was ascertained by the chlorine test, the durability by meter—consuming the gas with a single jet of 1·33 of an inch diameter, and with a 5-inch flame. The specific gravity was taken in the usual way.

The following are the results, being the average of several trials:—

Cubic feet of gas ..... 9123· per ton of coals.
Illuminating power of gas ... 14·5 candles.
Durability ..... 65·30 minutes.
Specific gravity of gas ..... 567·

The Lochgelly Coal may be considered as a fair average quality of Parrot Coal; for, though it is beneath the Lesmahago Coal, not only as regards the quantity of gas afforded, but also as to the illuminating power and durability of the gas, yet it is equal to the average quality of the Parrot Coal of the Lothians and of Fifeshire.

It is much more valuable than the English Caking Coal and English Parrot Coal now in general use, in regard to their relative value for the amount of light afforded by the combustion of their gases, as the following table will show:—

COALS.	Cubic Feet of Gas from Ton of Coal.	Illuminating Power of Gas by Chlorine Test.	Durability of Gas with Jet of 1·33 of an Inch. Min.	Sec.	Comparative Value of the Coals according to the Light afforded by the Consumpt of their Gases.	
English Caking Coal	8000	4·33	40	24	1·	—
English Parrot ditto	9500	7·6	44	0	...	1·
Lochgelly ditto	9123	14·5	65	30	6·18	2·71

Accordingly, the Lochgelly Coal is, on an average, more than six times the value of English Caking Coal, and more than twice and a half as valuable as the average of English Parrot Coal, for affording light by the combustion of their gases.

A ton of Lochgelly Coal leaves 1200 lbs. of coke.

In the above estimate the value of the ammoniacal liquor, tar, &c., is not taken into account.

A. FYFE, Professor of Chemistry,

Feb. 28, 1849. King's College University, Aberdeen.

H. JONES, Gas Meter Manufacturer, No. 44, OLD-STREET, St. Luke's, London, begs respectfully to call the attention of Gas Companies to his latest improvements in the WET METER, by means of which water cannot be abstracted, neither can Gas by any possibility pass through the Meter without registering.

BRYMBO Iron Works, Foundry, and COLLIERY, near WREXHAM, NORTH WALES. Shipping Ports:—Birkenhead, and Saltney, near Chester, on the river Dee.

Report of Experiments made at the Wrexham Gas Works on the 3rd, 4th, and 5th, and at the Chester Gas Works on the 6th and 7th, of August, 1848, upon the Gas Coals raised at the Brymbo Colliery, by Mr. A. WRIGHT, Gas Engineer, London.

At one work Fire-clay Retorts were used at a high temperature; at the other Iron Retorts at a moderate temperature; the results are, therefore, given separately, Clay and Iron being given as synonymous with high and moderate heats.

TWO YARD COAL.

CLAY RETORTS, 2 cwt. charge. 5½ hours.

Per Ton:
Gas Cubic Feet 8880.
Sp. Gr. first of Charge ·596 (Mean Sp. Gr. 463. 5 feet per hour, equal to 15 candles.)
middle „ ·462
last „ ·300
Gas by Weight 294·94 lbs.
Tar 70 „
Coke 12 cwt. 22 lbs.

The Coke of very superior quality.

POWELL COAL.

CLAY RETORTS, 2 cwt. charge. 5 hours.

Per Ton:
Gas Cubic Feet 10165.
Sp. Gr. first of Charge ·586 (Mean Sp. Gr. 459. 5 feet per hour, equal to 14·88 candles.)
middle „ ·456
last „ ·428
Gas by Weight 337·8 lbs.
Tar 70 „
Coke 11 cwt. 56 lbs.

POWELL COAL.

IRON RETORTS, 1½ cwt. charge. 5 hours.

Per Ton:
Gas Cubic Feet 8250.
Sp. Gr. first of Charge ·560 (Mean Sp. Gr. 470, equal to 15·3 candles, at 5 feet per hour.)
middle „ ·465
last „ ·300
Gas by Weight 295·6 lbs.
Tar 105·0 „
Coke 11 cwt. 56 lbs.

This Coal yields Gas very easily, of a good quality, and at a moderate heat. The Coke is also, though small, very good. It is therefore well fitted for those who use Iron Retorts and require a superior Gas.

CONTENTS.

	PAGE
Circular to Gas Companies	103
Communicated Articles:—	
Theory and Economy of Artificial Light	103
Correspondence:—	
Metropolitan Gas Companies	104
Croll's Patent Retorts	104
Register of New Patents:—	
Webster, for certain Improvements in Apparatus for Manufacturing Gas	104
Parish, for Improvements in Safety and other Lamps, and in Gas-burners	104
Cutler, for certain Improvements in the Manufacture of Metal Pipes or Tubes	104
Share List	105
Price Current	107

TO CORRESPONDENTS.

W. F. (*Kingston*).—We shall be happy to give you privately the information you ask for. If you are dissatisfied, why not form a company and purchase the works from the present owners? Persons situated as they are seldom refuse a fair offer; but your ideas as to the cost of gas works, and of producing gas, are very crude.

A City Gas Consumer is misinformed as to the dividend paid by the Liverpool United Gas Company. It was nominally 10 per cent., but really only £6. 4s. 2d. per cent., because a large portion of the capital has been raised (in accordance with the conditions of their act of Parliament) by the public sale of new shares at large premiums, so that, for each £100 on which dividend is now paid, nearly £180 has been actually advanced by the shareholders and invested in the undertaking. The last dividend was only 9 per cent. on the nominal, and £5. 11s. 9d. on the real, capital. The price of gas to the public lamps is nearly the same as to the private consumer.

W. J. (*Birmingham*).—No list of foreign gas works has been published. We believe, however, that we are in possession of the information you require.

NOTICES.

All communications relative to the editing of the JOURNAL OF GAS LIGHTING, and orders for Advertisements, to be addressed to the Editor and Proprietor, THOMAS G. BARLOW, Civil Engineer, 32, Bucklersbury, London. Subscribers who have not yet remitted the amount of their subscription are requested to do so by post-office order to William Strange, 21, Paternoster-row, London.

The Terms of Subscription are:—

Six Shillings per Annum for the Quarterly Journal and Monthly Supplement, payable in advance.

Post-office orders to be made payable to WILLIAM STRANGE.

Advertisements are inserted at the rate of 5*s.* per six lines, and 6d. per line for all beyond, subject to the following discounts, if paid in advance:—

15	per cent. for	3 insertions.
25	ditto	6 ditto.
33⅓	ditto	12 ditto.

Subscribers who have not remitted the amount of their subscriptions are requested to do so, in order to avoid any interruption in the receipt of the JOURNAL.

Advertisers and Subscribers are cautioned against paying any money to W. T. Hunt, who has ceased to be in the employment of the proprietor.

The Editor will be particularly obliged by his friends forwarding to him Notices of all Meetings, Trials, or Appeals which it may be interesting to the Gas World to have reported.

The press of other engagements compels the Editor to omit his usual "Circular to Gas Companies" this month.

Communicated Articles.

THEORY AND ECONOMY OF ARTIFICIAL LIGHT.

(*Continued from page* 76.)

The quantity of light which can be produced from any combustible may be estimated, as a general rule, to be in proportion to the quantity of carbon contained in it, for the reasons laid down in the former part of this article. Yet there is a possibility of there being so much carbon in certain bodies that they cannot be conveniently used, on account of the small quantity of oxygen in atmospheric air. This excess of carbon in any material renders it of less value than those which have just sufficient.

Before the invention of the improved lamp, by Argand, oil might have been classed amongst those substances which are inconveniently rich in carbon. At present, naphtha and turpentine are certainly worthy of being so classified, as, notwithstanding all the modifications of burning them, the difficulty to be surmounted is to prevent the carbon flying off unconsumed.

It happens fortunately that the richest gas made from coals never contains more than five parts of carbon to one of hydrogen; and it, therefore, requires very little precaution to effect the combustion of the whole of the carbon of the richest gas, while the greater portion of gas made in England has an opposite fault, viz., that of excess of hydrogen.

In the construction of burners the first thing to be considered is, whether the carbon or the hydrogen is in excess. I will assume carbon to be in excess when there is present more than four parts of carbon to one of hydrogen; and hydrogen to be in excess when there is less than four parts of carbon to one of hydrogen. These two different states require very different modes of treatment to produce the most useful effect; and it is from a want of looking at the subject in this, the true light, that many of our burner inventors, who have invented intuitively, by the force of their genius, and without knowlege or reflection, have so signally failed.

It has been laid down as an axiom in the former part of this paper, that *light is the effect of heat acting upon solid matter*, and also that the quantity of light is dependent on the *quantity of carbon solidified, and the heat to which it is raised.*

Now, when gas contains an excess of carbon, the circumstances are materially in favour of the solidification of the carbon, and hence the effort required is to oxidize the upper part of the flame. Where an excess of hydrogen exists, then the circumstances are in favour of the carbon being oxidized in the gaseous state, in which case it burns with a blue flame, producing no light; the effort, therefore, wanted is to prevent the carbon becoming oxidized before it is solidified, and hence the air must be restricted from playing upon the flame, more particularly at the lower part of it.

In rich gas the holes of the burner should be comparatively small and the flame thin, to ensure a good supply of oxygen. In poor gas the holes should be large, and the flame more dense, and, if Argand burners are used, the glass chimney for poor gas should be short, not exceeding seven inches; but for rich gas it may be somewhat longer, the supply of air being in proportion to the height of the chimney-glass.

An illustration of the erroneous mode of constructing burners is seen in an Argand burner lately invented, composed of a number of tubes set in a ring, forming nearly the frustrum of a cone. During the process of combustion, an ascending current of air is established around each of those tubes, which air mixes with the gas immediately it issues from the tube; this air, from impinging on the under part of the flame, has the effect of consuming a great quantity of the carbon in the gaseous state. Such a burner as this used for gas as rich as naphtha might be economical, but for ordinary gas it is quite the reverse.

Another alteration recently made in the Argand burner is to form the flame into a cup shape, by a button inside, and a globular-shaped glass outside. This is certainly a step in the right direction. The flame is oxidized at the proper place; the heat arrived at is most intense; and I question if by such arrangement any of the carbon is consumed in the gaseous state, whilst the temperature of the carbon is increased; still, there arises in this construction other faults which materially interfere with its success. The button being opaque interrupts a portion of the light given from the inside of the flame, while the heat in most instances is so intense as to render the surrounding glass opaque, and another interruption of light is the consequence. Upon the whole, I have not found that the light given from this kind of burner is, in practice, greater than that of a common Argand, with the same consumption of gas.

It is a good practical rule that a burner gives the maximum of light when it is at the point of giving off smoke. Above all things, the vulgar error of PERFECT COMBUSTION—should be scouted. PERFECT COMBUSTION may be effected and no light at all be produced.

Another vulgar error is, that what is called a white light is the most brilliant. The white appearance of most lights is produced by an admixture of blue in the flame. Painters have long been aware of the importance of the blue shade in the production of an apparent pure white, and have availed themselves of it. A pure white gas flame is never an economical one.

The relative economy of the gas-burners in general use is very accurately stated by Dr. Fyfe at page 79 of the JOURNAL for July; and, as I have felt bound to disagree with his statements in some respects, it gives me pleasure to pay this tribute to him as an accurate and careful experimentalist. One remark of his requires a special notice. He says, "The large batswing, the largest I have ever seen, is equally economical with the Argand. *I found it very liable to smoke.*" This observation is very instructive, and it bears out what I have already said respecting the commonly-received notions of *perfect combustion* and *white light.*

I could carry out these remarks, and apply the principle laid down to every description of burner; but I consider enough has been done to set many of the readers of these remarks thinking upon the true principles of the production of artificial light, and it will be better to allow some exercise of ingenuity on their part in the application of it to any circumstances that may arise, than, by too much diffusion on my part, to deprive them of so interesting a study.

A. W.

Correspondence.

METROPOLITAN GAS COMPANIES.

Sir,—As you have lately advocated in your journal the necessity of the metropolitan gas companies, for their mutual interests, forming themselves into one general company, I beg to assure you that they are more combined than you seem to be aware of, as the following will show.

It appears that the companies supplying the West-end of London have an agreement among themselves that neither shall light a public-house or coffee-shop where there are any arrears standing in favour of another company until such arrears are paid up. Now, this arrangement, I admit, if reasonably applied, is a very proper one; but pushed to the extent they are doing it becomes very arbitrary. Two cases have come under my notice within the last three months: the first was where a person took a public-house which had been shut up for two years. The lease had been forfeited to the original landlord; all had been sold off under an execution, so that the present tenant took it with nothing but the bare walls. Not even a service was in to show what company had supplied, or where to lead the pipes from. Notice was sent to the —— Company who put in a service and supplied gas, when, to the astonishment of the tenant, the inspector called, and informed him there was £15 arrears due from the former tenant to the company, and unless he paid that they must cut him off, which they did. He was obliged to pay. The other case is precisely similar: the house had been closed two months, and the lease forfeited to the original landlord, from whom the present tenant purchased it. A contract was made and signed with the —— Company, who lighted him for a month, and then told him they must cut him off unless he paid £11 arrears due to the —— Company by the former tenant, which sort of *equity* he did not understand, and very properly refused to comply with. The consequence is that he was cut off, and is now using oil lamps. He has, however, brought an action against the company for so doing, in which I sincerely hope he will succeed.

Now, sir, when gas companies exercise their powers in such a manner, are we to wonder that the public are so eager to support every new company that starts, and the old companies reduced to the humiliating position of cringing to their customers to retain their support? It is the boast of a customer of mine that he was the means of taking £500 a year rental from one of the metropolitan companies who had served him so when there was no opposition, although, when the new company came, they offered to repay him his money with interest. And so the present companies will find that a day of retribution will come, and for every one arbitrary act they commit now they will have twenty opponents.

A London Gas-fitter.

[We trust that the practice of which our correspondent complains is not general with the metropolitan companies, or is exercised only where fraud and collusion are suspected between the outgoing and incoming tenants. We are no friends of such arbitrary proceedings, which tend more to bring the "gas monopoly" into discredit than all the efforts of those who maintain that a monopoly price is charged. Gas companies are not entitled as traders to any greater privileges than other traders, and act unwisely in parading their powers before the public by exercising them in the manner complained of.]

CROLL'S PATENT RETORTS.

Sir,—Considering your journal as the medium of communication for any information of a practical nature connected with gas, I venture to make the following remarks, and shall feel extremely obliged if, being in any respect wrong, you will set me right.

In your number for April (which unfortunately I did not see till the present week) there is a statement, page 30, on the authority of Mr. Croll, that a 12½-inch D iron retort, 7 ft. 6 in. long, will produce 4000 ft. of gas in 24 hours.

Having for many years used 12-inch D's of the above length, I find the usual charge is about 1¼ cwt. for six hours, or 5 cwt. in 24 hours, which, with a coal yielding 9600 feet per ton, gives 2400 feet. By raising the temperature of the retort to a *white heat*, it will work off a charge of 1½ cwt. in six hours, or 6 cwt. per day; *or*, it will work off a charge of 1¼ cwt. in five hours, equal to 6 cwt. per day, yielding 2880 feet. To raise the daily production of each retort to 4000 feet is an object of very great importance, and one which I should much like to accomplish.

One reason for making the preceding remarks is, that many of your non-professional readers, not having any practical acquaintance with the subject, are neither able to understand how circumstances modify cases, nor to distinguish between facts given as the result of experience, and merely theoretical statements: thus they would conclude from the statement at page 30 that a 12½-inch D retort should, under all circumstances, be made to produce 4000 feet per day; which, under ordinary modes, is impracticable: how Mr. Croll effects this under any circumstances I know not; the difference of ½ an inch in the size of his retorts and those I have been accustomed to use being quite inadequate to account for it.

Plymouth, Aug. 11, 1849. J. W. Lack.

[Our correspondent has but imperfectly read the evidence to which he refers. Mr. Croll uses clay retorts of 15 inches diameter in the upper bench, and their capacity, as compared with 12-inch D retorts, being as 16 is to 11½, they may be charged with 2 cwt. of coal instead of 1¼ or 1½ cwt. Our observation leads us to conclude that, when these retorts are *in good working order*, the produce of gas from Newcastle coal is about 3700 feet per 15-inch clay retort per day, and 2400 per 12½-inch D iron retort.]

Register of New Patents.

James Webster, of Basford, Nottingham, engineer, for "*certain improvements in apparatus for manufacturing gas.*" Patent dated Feb. 8, 1849.

The improved apparatus consists, first, of a hollow vessel which is heated in a furnace, into which naphtha is slowly allowed to flow; the gas generated from the naphtha passes up through a bed of coke; it is then brought into contact with a surface of melted rosin, which is allowed to fall upon heated bars of metal; the gas is from thence conveyed through another layer of coke or iron, and by bent pipes passes through condensing vessels, by which the naphtha brought over along with the gas is separated from it; the gas is then fit for use, and the collected naphtha may be used for making the gas.

No claims.

Henry Headley Parish, of Eaton-place, Middlesex, Esq., for "*improvements in safety and other lamps, and in gas-burners.*" Patent dated Feb. 8, 1849.

Mr. Parish's safety-lamp has a cone of wire gauze round the burner through which the air is admitted to the flame, having previously entered by a perforated cylinder. The flame is surrounded by a cylinder of glass for transmitting the light, and also provided with a glass chimney. The wire gauze is silvered by the electrotype process, which causes it to reflect the light, and imparts to it besides greater strength. The patentee claims the whole of the lamp as being new, except the reservoir for the oil. The gas-burner specified is of the argand form; in the central opening there are placed two wire-gauze cones, one above and the other below the level of the point of escape for the gas. A better mixing of the air with the gas is stated to be thus effected, and the arrangement is claimed as being new.

Charles Thomas Pearce,* Esq., of Park-road, Regent's-park, for "*improvements in apparatus for obtaining light by electric agency.*" Patent dated Feb. 16, 1849.

Henry Crosley,* of the firm of H. Crosley, Son, and Galsworthy, of Emerson-street, Surrey, engineers and coppersmiths, for "*certain improved modes or methods of, and apparatus for, heating and lighting, for drying substances, and for employing air in a warm or cold state for manufacturing purposes.*" Patent dated Feb. 28, 1849.

Job Cutler, of Spark Brook, near Birmingham, for "*certain improvements in the manufacture of metal pipes or tubes.*" Patent dated Feb. 28, 1849.

The first of these improvements has relation to the application of machinery for drawing metal pipes, when formed from off the mandril upon which they have been rolled, and with much less risk of causing them to crack or break than the means now employed for that purpose. This improvement the patentee limits to such pipes as are made of alloys of metal. The metal is first cast in the form of a short pipe, and, when cleaned, is heated and put upon a mandril, and passed successively through rollers, the grooves in which diminish in size, so that the pipe is reduced in thickness and correspondingly increased in length on its passage through each successive pair of grooves. The metal out of which the pipe is formed is hot during the whole process, so that it does not require to be taken off from the mandril and annealed until finished. To take the pipe from off the mandril, it is cross-rolled by being introduced between three rollers, so arranged that they all bear longitudinally upon the pipe. This cross-rolling causes it to become loose upon the mandril, and therefore to be easily withdrawn therefrom. A plan of loosing the mandril by means of swedges and a tilt-hammer is also described.

The second improvement is in rolling the scabbards or sheaths of swords in a similar way to rolling pipes. The grooves are made the proper shape in the rolls, and a mandril of flat steel is employed instead of the round one used for pipes.

The third improvement has relation to the formation of rocket tubes, and consists in making them true and of an uniform thickness. This is effected by the cross-rolling process above described.

The fourth improvement is in coating pipes, for steam-boiler purposes, with a coating of compound metal, giving them first a coating of tin or zinc, and then another of copper. These coatings are deposited upon the pipes by means of a galvanic arrangement.

The fifth improvement is in coating the outsides of pipes, for the conveyance of gas and fluids under ground, with metal, as last described. The inside of these pipes is covered with enamel, by any of the usual processes employed for enamelling pans and other articles made of iron; or both the outside and inside of such pipes are enamelled.

Claims.—1. The means employed for taking the mandril, by cross-rolling, from pipes formed of alloys of metals, as described.

2. The making of sword scabbards, as described.

3. The making of pipes of uniform thickness by cross-rolling.

4. The coating of pipes with different metals. And

5. The coating and enamelling of pipes for sewerage and underground purposes.

Nathan Defries,* of Grafton-street, Fitzroy-square, C.E., and George Brooks Petit, of Brook-street, New-road, Middlesex, gas engineer, for "*improvements in applying gas to heat apparatus containing fluids, and in heating and ventilating buildings; also improvements in gas fittings, and in apparatus for controlling the passage of gas.*" Patent dated March 5, 1849.

[* *The specifications of Mr. Pearce, Mr. Crosley, and Mr. Defries's patents will be given in our next number.*]

Share List.

THE PRICES QUOTED ARE THOSE AT WHICH THE LAST SALES HAVE BEEN MADE.

The Companies whose names are printed in italic type are incorporated by Act of Parliament.

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£	**ENGLAND.**	£ s. d	£ s. d	£ s. d
		Abergavenny			
		Aberystwith			
		Abingdon			
		Accrington £5500		5 0 0	
		Alcester			
		Alford, Lincolnsh.			
		Alfreton			
		Alnwick			
		Alston Moor			
		Alton			
800	5	Altrincham	5 0 0		
		Amlwch			
		Ampthill			
350	10	Andover	10 0 0	5 0 0	10 0 0
		Appleby			
		Arundel			
		Ashbourn, Derby			
		Ashburton			
		Ashby-de-la-Zouch			
		Ashford, Kent			
		Ashton-under-Line £42,500		13 4 0	
		Atherstone			
		Axminster			
225	20	Aylesbury	20 0 0	5 0 0	20 0 0
		Aylsham, Norfolk			
		Bacup, Yorkshire			
		Bakewell			
		Baldock			
140	25	Banbury	25 0 0		
		Bangor			
500	5	Barking, Essex	4 10 0	5 11 0	5 0 0
250	10	Barnard Castle	10 0 0	5 10 0	10 15 0
		Barnet			
		Barnsley £6000		7 10 0	
100	20	Barnstaple	20 0 0	7 10 0	25 0 0
120	25	Basingstoke	25 0 0	8 0 0	28 0 0
2400	20	*Bath*	16 0 0	10 0 0	21 to 23
		Battle £2000		6 0 0	
56	26½	Bawtry	26 10 0	5 0 0	25 0 0
		Beccles, Bungay, and Lowestoft			
		Bedford			
		Bedale, Yorkshire			
		Belper			
		Beminster			
700	5½	Berwick-on-Tweed	5 10 0	6 8 0	5 15 0
		Beverley			
		Bewdley			
280	10	Bideford	10 0 0	6 0 0	10 10 0
		Biggleswade			
		Bicester			
		Bilston £25,000			
		Billericay			
		Bingley			
		Birkenhead and Claughton £56553	35 0 0	3 7 6	32 to 34
2400	50	*Birmingham and Staffordshire*	50 0 0	8 0 0	64 to 66
	25	*Ditto*, new shares	7 10 0	8 0 0	10½ to 11½
704	75	Birmingham	75 0 0	6 13 4	108 to 110
		Bishop's Auckland			
		Bishop's Stortford			
		Blackburn £24,000		8 0 0	
		Blandford			
		Blythe			
		Bodmin			
		Bolton £49,500		9 0 0	
		Boroughbridge			
		Boston £8000		6 0 0	
200	10	Bourn	10 0 0	5 0 0	
		Bradford, Wilts			
		Bradford, Yorksh. £45,000		10 0 0	
		Brampton, Cumb.			
		Brandon, Suffolk			
		Brecon			
		Bridge-end, Glam.			
		Brierly Hill			
2250	20	*Brighton*	20 0 0	5 0 0	16to16 10
1125	20	,, new shares	16 0 0	5 0 0	
		Brighton and Hove £50,276			
4250	20	*Bristol*	20 0 0	10 0 0	37 to 39
1630	25	*Bristol and Clifton*	25 0 0	6 0 0	25 0 0
		Brixham			
		Braintree			
750	50	*Brentford*	50 0 0	6 0 0	46 to 48
800	25	,, new shares	11 0 0	6 0 0	11 0 0
		Brentwood			
		Bridgnorth			
		Bridgwater £6000		5 0 0	
400	10	Bridlington	10 0 0		8 0 0
		Bridport			
		Brigg			
		Broadstairs			
100	50	Bromley, Kent	50 0 0	6 0 0	52 10 0
		Bromsgrove			
120	10	Bruton	10 0 0	4 0 0	8 0 0
100	25	Buckingham	25 0 0	5 0 0	25 0 0
		Bungay (see Beccles)			
		Burford			
		Burlington			
		Burnley £19,946			
		Burslem			
		Burton-on-Trent			
		Bury St. Edmund's			
		Bury, Lancashire £6570			
		Buxton			
		Calne, Wilts			
		Camborne			
		Cambridge £32,000		7 0 0	
240	50	*Canterbury* Gas and Water	50 0 0	6 0 0	57 to 58
240	25	*Ditto*, second issue	25 0 0	6 0 0	25 0 0
		Cardiff £10,500		7 10 0	
		Carlisle £9000		8 0 0	
		Carmarthen			
		Carnarvon			
		Chapel on the Frith			
		Chard			
		Chatham (see Rochester)			
		Chatteris			
		Cheadle			
		Chelmsford			
		Cheltenham £17,242 10s.		8 10 0	
		Chepstow			
		Chertsey			
		Chesham, Bucks			
		Chester			
		Chesterfield £12,023 14s. 1d.			
		Chichester	25 0 0	6 0 0	30 0 0
240	25	Chippenham			
		Chipping Norton			
		Chorley			
		Cirencester			
		Clifton (Bristol and Clifton)			
		Cleckheaton, Yorkshire			
		Clitheroe			
		Cockermouth			
		Colchester			
		Colne, Lancashire			
		Coleford, Gloucestershire			
		Coggeshall			
		Congleton £5000		7 10 0	
		Cowbridge			
		Coventry	25 0 0	5 0 0	20 0 0
800	25	Cowes			
		Crewkerne			
		Croydon			
		Cranbrook £1900		5 0 0	
		Crediton			
		Crewe, Cheshire			
		Darlaston			
		Darlington			
		Dartford	20 0 0	7 10 0	27 0 0
250	20	Dartmouth			
		Daventry	20 0 0	6 0 0	24 8 0
125	20	Dawley, Shrop.			
		Denbigh	6 0 0	5 0 0	6 0 0
500	6	Deptford, Bermondsey, and Rotherhithe			
820	10		10 0 0	5 0 0	4 10 0
		Derby £16,250		7 10 0	
		Dereham (East)	20 0 0	4 10 0	
90	20	*Dewsbury*	5 0 0	7 10 0	8 12 6
1000	5	Devizes			
		Devonport	5 0 0	6 0 0	5 14 0
4000	5	Diss			
		Doncaster			
		Dorchester	25 0 0	5 0 0	25 0 0
280	25	Dorking	20 10 0	5 0 0	21 10 0
120	25	Douglas, Isle of M.			
		Dover	56 10 0	6 0 0	56 10 0
209	56½	Downham			
		Driffield			
		Droitwich			
		Dudley	20 0 0	4 0 0	14 to 16
600	20	Dunmow			
		Dunstable			
		Durham			
		Dursley, Gloster	9 0 0	5 10 0	8 0 0
276	9	Elland			
		Ellesmere			
		Epsom	19 0 0		
300	19	Evesham			
		Exeter £40,000		8 0 0	
		Exmouth			
		Eye, Suffolk			
		Fakenham			
		Falmouth			
		Fareham			
		Farnham	25 0 0	10 0 0	42 0 0
120	25	Farringdon			
		Faversham			
		Fleetwood			
		Folkestone			
		Frome			
		Gillingham, Dorsetshire			
		Glastonbury			
		Glossop £6000		7 0 0	
		Gloucester £24,600		7 10 0	
		Godalming			
		Gosport			
		Grantham			
		Gravesend			
1000	10	*Great Grimsby*	6 10 0	8 0 0	8 5 0
		Guildford			
		Guisborough			
		Hadleigh			
		Hales Owen			
300	6	Halesworth	6 0 0	7 10 0	5 10 0
		Halifax £15,000		8 0 0	
		Halstead			
		Harleston			
		Harrogate £10,000			
		Hartlepool £7835		7 0 0	
		Haslingden, Lanash			
330	50	Hastings and St. Leonard's	50 0 0	6 0 0	60 0 0
		Haverfordwest			
		Haverhill			
		Haworth, Yorks.			
		Helstone			
		Hemel Hempstead			
300	10	Henley-on-Thams.	10 0 0		
		Hereford £5300		4 0 0	
		Herne Bay			
270	10	Hexham	10 0 0	7 0 0	12 0 0
		Heywood £10,000		7 10 0	
230	10	Hinckley	10 0 0	5 0 0	7 0 0
		Hindley, Lancashire			
		Hitchen			
		Hythe			
		Holbeach			
		Holmfirth £8325		6 0 0	
		Holyhead			
		Holywell (see British Provincial)			
		Honiton			
	10	Horncastle			
		Houghton-le-Spg.	10 0 0	8 0 0	
		Horsham			
		Howden			
		Hull, Sculcoats (see British Provin.)			
		Hull, Broadley-st. £11,712. 10s.		8 0 0	
		Hungerford			
520	5	Huddersfield			
		High Wycombe	5 0 0		5 0 0
		Hyde, Cheshire			
		Ilminster			
		Ilford			
		Ilfracombe			
1400	10	Ironbridge			
1400	10	*Ipswich*	10 0 0	8 0 0	15 0 0
800	25	,, new shares	5 0 0	8 0 0	
		Isle of Thanet (Ramsgate&Mar.)	20 0 0	5 0 0	19 to 20
		Kendal £7600		7 10 0	
		Kenilworth			
100	25	Keswick			
		Kettering	25 0 0	5 0 0	25 0 0
		Kiddermins. £8000		5 0 0	
		King's Langley			
		Kington, Hereford			
		Knutsford			
		Llanelly			
		Llandovery			
		Leamington Priors £20,000		6 0 0	
		Ledbury			
		Leeds Old Comp. old stk., £60,300		10 0 0	
		new ,, £11,527		6 0 0	
		Leeds New Comp.			
		Leek			
		Leicester		7 0 0	
		Leigh			
125	20	Leighton Buzzard	20 0 0	5 0 0	
		Leominster			
		Leyburn, Yorksh.			
		Liskeard			
330	25	Lewes	25 0 0	5 0 0	23 0 0
		Lincoln £8000		10 0 0	
		Leyland, Lancash.			
		Lichfield			
		Liverpool United	100 0 0	10 0 0	146 to 148
		,, ¼ sh.	25 0 0	10 0 0	32 to 34
		Langport			
		London Comps.—			
5000	40	*British*	18 0 0	5 11 1	13 to 15
		,, debentures		4 0 0	
5000	20	,, Prov.—(Ayr, Clonmel, Gloucester, Holywell, Hull, Norwich, Stoke, Trowbridge)	20 0 0	7 0 0	19 to 21
	20	,, Prov., new	3 0 0	7 0 0	3 to 3½
	25	*Commercial*	25 0 0	5 10 0	25½ to 26½
	25	,, new shres	10 0 0	5 10 0	pr. to ½pm.
	25	,, ,,	2 10 0	5 10 0	pr. to ½pm.
12,000	50	*Chartered*	50 0 0	6 0 0	44 to 46
6000	50	,, new shares	10 0 0	6 0 0	9 to 9½
1000	100	*City of London*	100 0 0	10 0 0	240 0 0
1000	100	,, new shares	75 0 0	10 0 0	210 0 0
4000	50	*Equitable*	50 0 0	4 10 0	26 to 30
10,000	20	European—(Amiens, Boulogne, Caen, Havre, Nantes, and Rouen)	20 0 0	5 0 0	9 to 10
8000	50	*Impl. Continental*—(Amsterdam, Aix-la-Chapelle, Antwerp, Berlin, Bordeaux, Brussels, Cologne, Frankft., Ghent, Haarlem, Hanover, Lille, Marseilles, Rotterdam, Toulouse, Vienna)	42 0 0		30 to 35
7000	50	,, new shares	38 0 0		38 to 40
	50	,, third issue	42 10 0		52 to 55

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£		£ s. d	£ s. d	£ s. d
10,000	50	*Imperial*	50 0 0	6 0 0	65 to 67
		„ debentures			
4000	40	*Independent*	40 0 0	6 0 0	60 to 62
3000	50	*London*	50 0 0		10 to 15
3000	50	„ preference	50 0 0		20 to 25
9000	50	*Phœnix*	47 0 0	5 0 0	27 to 29
320	50	*Poplar*	50 0 0	4 0 0	28 to 30
1600	100	*Ratcliff*	90 0 0	5 0 0	73 to 75
4000	25	*South Metrop.*	25 0 0	6 0 0	21 to 23
9000	50	United General—(Cork, Dublin, Limerick)	50 0 0	2 10	14 to 16
12,500	20	Western	10 0 0		
		Lostwithiel			
		Loughborough			
240	25	*Louth*	25 0 0	6 0 0	26 10 0
		Lowestoft (see Beccles)			
611	5	Ludlow Union	5 0 0	6 0 0	5 0 0
		Luton			
		Lyme Regis			
		Lymington			
		Malmesbury			
		Macclesfield			
		£20,000		4 13 5	
		Maidenhead			
250	50	Maidstone	50 0 0	10 0 0	100 0 0
		Maldon			
		Marlborough			
		Malton (New)			
		Manningtree			
		Mansfield £5000		10 0 0	
		March			
		Margate (see Isle of Thanet)			
		Market Deeping			
132	25	Market Harboro'	25 0 0	6 0 0	30 0 0
		Market Raisin			
		Market Weighton			
		Marlow			
370	10	Maryport	10 0 0	6 0 0	12 0 0
		Melksham			
		Melton Mowbray			
		Merthyr Tydvil			
		Mere			
		Middleton £5000			
		Midsummer Norton			
		Middlesboro'			
		Mildenhall			
		Mold			
700	10	Monmouth Gas and Water	10 0 0	4 0 0	
		Monk Wearmouth			
		Moreton in the Marsh			
		Nantwich			
		Neath			
		Needham Market			
		Newark £5000		10 0 0	
250	10	Newbury	20 0 0	5 0 0	20 0 0
13,000	5	Newcastle & Gateshead Union	5 0 0	10 0 0	6 12 6
		Newcastle-under-Lyne £5000		5 0 0	
600	5	Newmarket	5 0 0	6 0 0	5 0 0
		Newnham, Gloucestershire			
		New Mills & Hayfield £2115			
		Newport, Monmouthshire			
320	50	*Newport, Isle of Wight*	38 0 0	4 0 0	20 to 22
		Newport Pagnell			
		Newport, Salop			
		Newton Abbot			
		Newton, Lancashire			
		Northallerton			
		North Walsham			
		Northampton			
		Northwich			
		Norwich (see British Provincial)			
900	50	*Nottingham*	50 0 0	10 0 0	
900	50	New shares		10 0 0	
		Nuneaton			
		Oakham			
		Oakhampton			
200	10	Odiham, Hants	10 0 0		10 0 0
		Oldham			
		Ongar			
		Ormskirk			
		Otley, Yorkshire			
		Oundle			
		Oxford £18,000		9 10 0	
		Over Darwen £8000		5 0 0	
		Padstow			
		Pately Bridge, Yorkshire			
250	20	Penrith	15 0 0	6 10 0	21 0 0
		Penryn			
		Penzance			
200	10	Petworth	10 0 0	9 10 0	14 10 0
		Pickering			
3000	10	*Plymouth & Stonehouse*	10 0 0	6 0 0	11 0 0
		Pocklington			
		Pontefract			
400	10	Poole	10 0 0	5 0 0	10 0 0
		Port Madoc			
600	50	*Portsea Island*	53 0 0	5 0 0	47 to 49
400	10	Prescott	9 0 0	4 13 4	7 0 0
		Preston £52,500		10 0 0	
		Pwllheli			
		Pontypool			
		Pudsey			
		Radcliff and Pilkington £9000		4 12 10	
		Ramsay, I. of Man			
		Ramsgate (see Isle of Thanet)			
1000	10	*Reading*	10 0 0	3 0 0	7 0 0
500	20	Reading Union	20 0 0	6 0 0	17 0 0
		Redditch			
		Redruth			
		Reigate			
		Retford (East)			
		Richmond, Surrey			
		Ripon			
		Rochester and Chatham £14,000		6 0 0	
		Rochford			
		Rockingham			
		Ross			
		Rotherham £4000		10 0 0	
		Royston			
		Rugby			
		Rugeley			
		Ruthin			
		Runcorn			
500	10	Ryde	10 0 0	6 0 0	12 0 0
		Rye			
		Romsey			
		Saddleworth			
225	20	Saffron Walden	20 0 0	3 15 0	19 0 0
		St. Austel			
		St. Colomb			
		St. Helen's £7200		5 0 0	
		St. Ives, Huntingdonshire			
		St. Ives, Cornwall			
		St. Neot's			
		Salisbury			
		Sandbach			
		Saxmundham			
		Scarborough			
		Selby			
		Settle			
290	10	Sevenoaks	10 0 0	5 0 0	10 0 0
		Shaftesbury			
5400	25	*Sheffield United*	24 0 0	8 6 4	32 0 0
		Shelton, Potteries (see British Provinces)			
		Shepton Mallet			
		Sherborne			
2914	5	Shields, North (Tynemouth)	5 0 0	3 0 0	5 0 0
		Shields (South)			
		Shiffnal, Salop			
		Shipley			
		Shipston-on-Stour			
		Shrewsbury £10,000		7 0 0	
400	10	Skipton	10 0 0	4 0 0	11 0 0
		Sleaford			
		Southwold			
		South Molton			
1000	50	*Southampton*			
		Sowerby, Yorksh.			
		Stokesly			
		Stafford £10,000			
		Staines and Egham			
		Staley Bridge £15,000		10 0 0	
		Stamford £11,250			
		Stockton-on-Tees £3600		8 0 0	
840	9½	Stockton, New	9 10 0		8 0 0
960	10	Stoke-upon-Trent	10 0 0	6 10 0	12 0 0
500	10	„ new shares	3 0 0	6 10 0	5 0 0
		Stone, Stafford			
		Stoney Stratford			
		Stourbridge			
		Stowmarket			
150	20	Stratford-on-Avon	20 0 0	7 10 0	30 0 0
		Stroud			
169	10	Swaffham	10 0 0	5 0 0	5 10 0
		Swansea £9000			
		Sudbury			
		Sunderland, old			
6400	5	Sunderland, new	5 0 0		
		Swindon			
2800	5	*Taunton*	5 0 0		2 10 0
		Tadcaster			
		Tamworth			
		Tavistock			
		Teignmouth			
		Tenbury			
		Tenby			
		Tenterden £2000		2 10 0	
		Tetbury, Gloster			
		Tewkesbury			
		Thetford			
		Thirsk			
		Thornbury			
		Thorne			
		Tiverton			
670	5	Todmorden	3 0 6		
		Torquay			
		Torrington, Devon			
		Totness			
		Tottenham		6 0 0	
		Towcester			
		Tring			
		Trowbridge (see British Provincial)			
75	50	Truro	50 0 0	2 0 0	
		Tunbridge			
		Tunbridge Wells			
		Ulverston			
		Uppingham			
		Usk, Monmouth			
		Uttoxeter			
		Uxbridge			
1000	25	*Wakefield*, old capl.	25 0 0	6 0 0	24 0 0
1600	5	„ new „	5 0 0	6 0 0	4 16 0
300	10	Wallingford	10 0 0	5 0 0	8 0 0
		Wandsworth			
		Wantage			
		Warrington £18000		10 0 0	
100	10	Wareham	10 0 0	3 10 0	8 0 0
120	25	Warminster	25 0 0	5 0 0	27 0 0
		Warth			
		Warwick £15,000		6 0 0	
		Watford			
		Welchpool, Mntgy.			
		Wellingborough			
		Wellington, Salop			
		Wellington, Smrst.			
		Wells, Smrst. £4000		6 0 0	
		Wenlock			
		Westbury			
		Weston-sup.-Mare			
2000	5	West Ham	5 0 0	6 0 0	5 0 0
		Whitby			
		Whitehaven			
		Whittlesea			
		Wigan £10,160		5 0 0	
		Willenhall			
		Winchelsea			
		Winslow			
240	10	Wimborne Minster	10 0 0		
		Wincanton			
		Winchester			
900	12½	Windsor	12 10 0	10 0 0	23 0 0
		Witham			
		Witney			
4448	10	*Wolverhampton*	10 0 0	7 10 0	11 10 0
		Woburn			
210	10	Wokingham	10 0 0		10 0 0
		Woodbridge			
		Wotton-un.-Edge			
		Worcester			
		Workington			
		Worksop			
		Wirksworth			
		Worthing			
		Wrexham			
		Woolwich			
		Woolwich Consms.			
		Wymondham			
		Yarm			
795	20	Yarmouth	20 0 0		17 to 18
		Yeovil			
		York Untd. £55,000			

SCOTLAND.

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£		£ s. d	£ s. d	£ s. d
		Aberdeen			
		Airdrie			
		Alloa			
		Anstruther			
		Ardrossan, nr. Saltcoats			
550	20	Arbroath	20 0 0	7 10 0	27 10 0
		Auchterarder			
		Auchtermuchty			
		Ayr, old (see Brit. Provincial)			
		Ditto, new			
		Banff			
		Bathgate			
		Beith			
		Boggar			
250	6	Borrowstowness	6 0 0	5 0 0	8 0 0
		Brechin			
		Broughty Ferry, near Dundee			
		Burntisland			
		Campbelton			
		Clackmannan, near Alloa			
		Coatbridge			
		Coldstream			
		Collinsburgh			
		Crieff			
		Crail, Fife			
		Cumbernauld, near Glasgow			
600	5	Cupar Angus	5 0 0	6 0 0	5 10 0
250	10	Cupar Fife	10 0 0	7 10 0	14 0 0
		Dalkeith			
		Dingwall			
		Dumbarton			
400	20	Dumfries	14 0 0	5 0 0	20 0 0
		Dunbar			
		Dunblane			
		Dundee, old			
		„ new			
860	10	Dunfermline	10 0 0	6 0 0	12 12 0
		Dunkeld			
		Dunse			
		Dysart			
6000	25	*Edinburgh Gas Co.*	25 0 0	10 0 0	45 0 0
		„ *and Leith Co.* £150,000		6 10 0	
		Elie			
		Elgin			
		Falkirk, old			
		„ new			
		Falkland			
		Ferry Port on Craig, Fife			
		Forfar			
		Fort William			
		Fraserburgh			
		Galashiels			
		Girvan			
		Glasgow £122,500		5 0 0	
15000	10	*Glasgow City and Suburban*	9 0 0	7 10 0	9 0 0
		Grangemouth			
		Haddington			
		Hamilton			
		Hawick			
		Helensburgh			
		Inverary			
400	1	Inverkeithing	1 0 0	5 0 0	1 0 0
1200	10	*Inverness Gas and Water*	10 0 0	8 0 0	15 0 0
2400	5	„ new shares	1 5 0	8 0 0	3 5 0
		Irvine			

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£		£ s. d	£ s. d	£ s. d
		Jedburgh			
		Keith			
		Kelso			
		Kilmarnock			
		Kinghorn			
		Kingskittle, Fife			
		Kinross			
		Kirkaldy			
320	5	Kirkcudbright	5 0 0	5 0 0	5 0 0
1000	3	Kirkintilloch, near Glasgow	3 0 0	5 0 0	3 0 0
227	5	Kirkwall	5 0 0	5 0 0	4 10 0
518	5	Kirriemuir	5 0 0	6 0 0	
		Lanark			
		Largo, near Leven			
		Largs			
		Lasswade, n. Edin.			
		Lauder			
		Leith			
		Leslie, Fife			
		Lesmahago			
		Leven			
		Linlithgow			
		Linton, n. Nobleh.			
		Lochee, n. Dundee			
		Lochgilphead			
		Lochwinnock, near Paisley			
1200	1	Markinch	1 0 0	7 10 0	1 5 0
		Mauchline			
		Maxwell-town, n. Dumfries			
		Melrose			
718	2	Mid & East Calder	2 0 0		2 0 0
192	5	Moffat	5 0 0		
		Montrose			
		Musselburgh			

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£		£ s. d	£ s. d	£ s. d
		Nairn			
		Neilston, n. Glasg.			
		Newburgh, Fife			
		Newton Stewart			
		North Berwick, n. Haddington			
		North Queensferry			
		Oban			
		Peebles			
800	25	Perth	25 0 0	1 4 0	22 10 0
		Peterhead			
		Pittenweem			
		Pollokshaws, near Glasgow			
		Port Glasgow			
		Portobello, near Edinburgh			
		Prestonpans			
		Renfrew, n. Paisley			
		Saltcoats			
		Selkirk			
		South Queensferry			
		St. Andrew's			
		Stewarton			
		Stirling			
		Stonehaven			
		Stranraer			
		Strathaven, near Hamilton			
		Thurso			
		Tillicoultry, near Alloa			
800	1	Tranent	1 0 0		1 0 0
		Troon			
		Wick			
		Wigton			
		Wemyss		4 10 0	

Number of Shares issued.	Amount per Share	Name of Company.	Amount paid up per Share	Dividend per Cent. per Ann.	Price.
	£	**IRELAND.**	£ s. d	£ s. d	£ s. d
300	10	Armagh	10 0 0	8 0 0	14 10 0
700	50	*Belfast*	50 0 0		
		Ballymena			
		Cashel			
		Carlow, new			
		Cork (see United General)			
		Coleraine			
		Clonmel (see British Provincial)			
		Drogheda			
19,000	10	*Dublin Consumers*	5 0 0	6 0 0	5 0 0
		Dublin Hibernian (see United Gen.)			
		Dundalk	25 0 0		22 0 0
100	25	Dungannon			
		Downpatrick			
		Enniskillen			
		Galway			
400	10	Kilkenny	10 0 0	8 0 0	11 5 0
		Limerick (see United General)			
1725	5	Limerick Consumers	5 0 0	5 0 0	5 0 0
600	15	Londonderry	15 0 0	6 13 4	21 10 0
500	6⅔	Lisburn	6 5 0	0 5 0	6 5 0
520	10	Lurgan	6 0 0	6 0 0	6 0 0
		Monaghan			
		Nenagh			
448	5	Newtownards	5 0 0	4 0 0	5 0 0
		Newry			
125	20	Portadown	13 0 0		
		Sligo			
		Waterford			
		Wexford			

The Gas Works in the undermentioned towns belong to private individuals:—

Carlow, old.	Hertford.	Morpeth.	St. Helier's, Jersey.	St. Peter's Port, Guernsey.
Deal.	Holt.	Oswestry.	Sheerness.	Spalding.
Ely.	Huntingdon.	Peterborough	Sidmouth.	Romford.
Farsley.	Kingston-on-Thames.	St. Alban's.	Sittingbourne.	Thame.
Gainsborough.	Lancaster.	Sandwich.	Stockport.	Waltham Abbey.
Goole.	Lynn.			
Ware.				
Wem.				
Weymouth.				
Whitchurch (Salop).				
Wisbeach.				

The Gas Works belong to the Corporations, or to Commissioners acting under special acts of Parliament, in the following towns:—

Greenock. Keighly. Knaresborough. Manchester. Milton (Kent). Paisley. Rochdale. Rothesay. Richmond (Yorkshire). Salford. Strabane. Walsall. Wells (Norfolk).

*** We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of communication; our object being to present as accurate a list of prices as can be obtained; to procure which, we solicit the aid of correspondents in general.

Price Current.

The following List of Prices is corrected by an eminent wholesale house in each trade up to the latest period:—

CASTINGS, per Ton.

Average Weight of Cast Iron Pipes, per Yard.

1½ in.	2 in.	2½ in.	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.	10 in.	12 in.
16	21	28	33	51	70	89	107	126	149	177	208 lbs.

Retail Prices are 5 to 10 per cent. higher.

	London.	Glasgow	Newcastle.	Wales.	Yorkshire, Derbyshire, and Staffordshire.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Pig Iron, No. 1.	3 7 6	2 10 0	3 0 0	3 15 0	3 10 0
1¼ and 2 inches Socket Pipes	6 0 0	5 0 0	5 10 0	5 15 0	5 15 0
2½ and 3 do. do.	5 17 6	4 17 6	5 7 6	5 12 6	5 12 6
4 and 5 do. do.	5 15 0	4 15 0	5 5 0	5 10 0	5 10 0
5 inches and upwards do.	5 12 6	4 15 0	5 2 6	5 7 6	5 7 6
Extra for bends, branches, and connection	2 0 0	2 0 0	2 0 0	2 0 0	2 0 0
Retorts, 1st fusion	5 2 6	..	..	4 17 6	5 0 0
Do. 2nd fusion	5 10 0	4 10 0	4 17 6	5 5 0	5 5 0
Tank Plates, ¼ thick and above	5 10 0	4 17 6	5 0 0	5 7 6	5 7 6
Do. less than ¼	5 15 0	5 0 0	5 5 0	..	5 10 0
Plain Castings ex. models	5 15 0	5 0 0	5 5 0	5 10 0	5 10 0

COALS.

NEWCASTLE. Unscreened.	s.	d.	
Tyne Main	5	6	per ton.
Ravensworth Pelaw, Dean's Primrose	5	9	,,
Pelton, Medomsley, New Tanfield	6	0	,,
Pelaw	6	3	,,
Eighton Moor, Felling Main, Hutt's Tanfield, New Pelton, Peareth, South Pelaw, Waldridge, South Peareth, South Pontop	6	6	,,
Ramsay's Cannel	15	0	,,

DERBYSHIRE. Unscreened.	s.	d.	
Clay Cross, Deep Main, Jerries, New Birchwood, New Shipley, Sleight's, Soft Main	6	6	per ton.

SCOTCH CANNEL.			
Kirkness best	23	0	,,
Ditto seconds	14	0	,,
Lothian	18	0	,,
Lesmahago	16	0	,,
Wemyss	15	0	,,
Dombristle, Lethans	12	0	,,
Bridgeness, Kinneil	11	0	,,
Lochgelly, Lumphumans	10	0	,,

FIRE GOODS.

Best Fire Bricks, 60s. per thousand, at Newcastle.
Do. Clay, 12s. per ton do.

WROUGHT IRON TUBING, subject to 25 per cent. Discount.

	2 inches.	1½ inch.	1¼ inch.	1 inch.	¾ inch.	½ inch.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Patent welded tubes, from 4 to 12 feet, per foot	1 8	1 0	0 10	0 7	0 5	0 4½
Ditto ,, 2 to 4 feet	One penny per foot extra.					
Ditto ,, 6 in. to 18 in., each	3 0	2 0	1 9	1 3	1 0	0 9
Connecting pieces, or long screws	3 6	2 3	2 0	1 6	1 2	0 11
Bends, wrought iron	3 9	2 3	1 9	1 0	0 10	0 8
Springs, wrought iron	3 9	2 3	1 9	1 0	0 10	0 8
Elbows, wrought or cast	3 9	2 3	1 9	1 0	0 10	0 8
Tees, wrought or cast	4 0	2 6	2 0	1 6	1 1	0 10
Crosses, wrought or cast	4 6	3 0	2 6	2 0	1 6	1 2
Iron cocks	17 6	9 6	7 6	4 6	3 3	2 6
Ditto, with brass plug	28 0	16 0	13 0	7 0	5 6	4 6
Diminishing sockets	1 3	0 9	0 8	0 6	0 5	0 4
Plain sockets	1 0	0 8	0 7	0 5	0 4	0 3
Caps, plugs, nipples, backnuts	1 3	0 9	0 8	0 6	0 5	0 4
Flanches	1 9	1 6	1 3	1 0	0 9	
Syphons, 2 quart	15 0	14 0	13 6	13 0	12 0	
Ditto 1 quart	11 0	10 0	9 6	9 0	8 6	
Tongs or nippers each pair	9 0	7 0	6 6	5 6	4 9	4 6
Elbow burners per dozen	7 6	Jet or batwing.				
Straight burners ,,	6 0	ditto.				

Stocks, dies, and taps, for 2 inch, 1½ inch, and 1¼ inch tubing ..... £8 10s. 0d. per set.
Ditto, do. and do. ,, 1 ,, ¾ ,, and ½ ,, ,, ... 5 5 0 ,,
Ditto, do. and do. ,, ¾ ,, 2-8 ,, and ¼ ,, ,, ... 3 0 0 ,,

FREIGHTS, per Ton.

Coastwise—Newcastle.	s.	d.
Chatham & Roches.	6	0
Colchest. & Maldon	6	0
Cork	9	6
Dartmouth	7	9
Devonport	7	6
Dover	6	0
Dublin	9	6
Exeter Quay	9	0
Faversham	6	6
Folkestone	6	6
Hastings	7	6
Ipswich	6	0
Jersey	9	0
London	6	6
Lowestoft	5	6
Lynn	6	0
Limerick	10	6
Margate	6	6
Newhaven	6	6
Portsmouth	7	6
Plymouth	7	9
Rye	8	0
Southampton	7	9
Totnes	8	0
Teignmouth	7	6
Weymouth	7	9
Yarmouth	5	6

Foreign.		
Algiers	20	0
Amsterdam	10	0
Antwerp	8	4
Boulogne	7	0
Barcelona	18	0
Bordeaux	10	6
Calais	7	0
Caen	9	0
Cadiz	12	6
Cette	17	0
Dieppe	8	6
Genoa	21	0
Hamburg	8	4
Havre	8	3
Honfleur	8	6
Leghorn	19	0
Lisbon	11	0
Marseilles	16	0
Nantes	11	6
Naples	20	0
Rotterdam	8	0
Rouen	11	0
Toulon	17	0
Trieste	22	0
Venice	22	0

HARPERS and MOORE, of the Delph Fire-brick and Clay Works, Stourbridge, invite the attention of Gas Companies, Engineers, Oven Builders, and all consumers, to their Stock of FIRE-BRICKS, LUMPS, or BURRS, QUARRIES, CLAY, and other Goods, a large assortment of which is always kept at their London Depôt, No. 7, Weniock-road, City-road; also (Melting-pots for Brassfounders and Metal Refiners. These articles are made in a very superior manner from clay of the very best quality, and have been proved by metal-melters (who can be referred to) to have withstood the most severe tests, and for very long periods.

Shipping orders supplied, and every description of Fire-clay Goods made to pattern or drawings on the shortest notice.

H. and M. particularly invite the attention of Gas Companies to a trial of their Fire-clay Retorts, which they are now making in a very superior manner, and of a quality which, on trial, will be found to surpass anything of the kind hitherto produced. The superior quality and peculiar admixture of their clays enable them to manufacture an article which fully admits of the necessary expansion and contraction, to allow of their being let down at the end of a season, when the usual supply of gas is not required, and again put to work for successive seasons without fear of cracking or leakage from any other cause.

H. and M. further beg to direct attention to the evidence of Mr. Croll, given before a Committee of the House of Commons, relative to the use of Clay Retorts (see "Gas-lighting Journal" of April 10, 1849, pages 43 and 44). The Clay Retorts there referred to by Mr. Croll were made at, and supplied from, the works of Harpers and Moore, as above; they were put to work in August, 1846, and are now in full and constant operation.

Testimonials can be seen, and further information obtained, on application (if by letter, prepaid), addressed as above.

PATENT FIRE-CLAY RETORTS.

ORLANDO BROTHERS and RAILTON, Manufacturers of O. Brothers's Patent, beg to state that these RETORTS being made in ONE ENTIRE OPERATION, and in ONE PIECE of any required shape, length, breadth, and height, are not liable to Cracks and Fissures, of which there is a just and general complaint; and they are consequently superior to and cheaper than any hitherto manufactured.

Prices per foot in length:—

	At Blackburn.	In London.
12 in. by 12	7s. 0d.	8s. 3d.
14 in. by 12	8s. 0d.	9s. 6d.
16 in. by 12	8s. 6d.	10s. 3d.
18 in. by 15	9s. 6d.	11s. 6d.
19 in. by 13	9s. 6d.	11s. 6d.
24 in. by 15	11s. 6d.	13s. 9d.

exclusive of the angle-iron flanges.

References and further particulars may be obtained on application to the Patentee, Gas Works, Blackburn; or to Messrs. George Barlow and Son, 9, Charterhouse-square, London.

PRICES of Clegg's New Patent Gas METERS, &c.

STATION METERS.

To measure	60,000	cubic feet	per 24 hours	£50
,,	120,000	,,	,,	75
,,	240,000	,,	,,	100
,,	500,000	,,	,,	150
,,	1,000,000	,,	,,	250
,,	2,000,000	,,	,,	400

Gasholders, with tanks complete for action, containing one million cubic feet, erected for £5500.

Retorts charged and discharged by machinery, whereby a great saving is effected, and the value of the coke improved 30 per cent.

24, Regent-square, London, Aug., 1849.

TO DIRECTORS AND MANAGERS OF GAS COMPANIES.

GLOBE Patent Tube Works, Wednesbury.—Gentlemen,—We beg to solicit your orders for Iron Gas Tubes and Connections.

Mr. CORNELIUS WHITEHOUSE, the Original Patentee of the Tubes manufactured for so many years by Mr. JAMES RUSSELL, of Wednesbury (and to whom the Patent was disposed), having made further Improvements, which are patented, is thereby enabled to manufacture Tubes of a superior quality to any hitherto offered to the public.

In soliciting your favours we beg to assure you that the most prompt attention shall be given to orders entrusted to our care.—We are, gentlemen, your obedient servants, C. WHITEHOUSE and Co.

R. LAIDLAW AND SON, GAS ENGINEERS,

BRASS AND IRON FOUNDERS AND MANUFACTURERS OF GAS METERS, MALLEABLE IRON AND BLOCK-TIN TUBES, GAS LAMPS, PENDANTS, BRACKETS, AND FITTINGS, RETORTS, PIPES, and all APPARATUS required for GAS WORKS, of the best quality.

ORDERS promptly executed, and ESTIMATES given.

EDINBURGH AND GLASGOW.

GEORGE BARLOW and SON, 9, Charter-house-square, London, beg to offer Retorts, Tanks, Gasometers, Washers, Condensers, Purifiers, Valves, and all other Apparatus for Gas Works, at the lowest prices. Also Mr. Orlando Brothers' PATENT FIRE CLAY RETORTS. Estimates supplied for Gas Works, and the most approved plans for setting Retorts.

CAST Iron Retorts, Socket Pipes, and Connections of every size suitable for Gas and Water Works, Lamp Columns, Wrought Iron Tubing, Hot Water Pipes, Rain Water Pipes, and Eaves Gutters, in stock, and sold on the lowest terms, at LYNCH WHITE'S Iron Wharf, 66, Bankside, London.

G. H. RAMSAY,

OWNER OF BLAYDON MAIN AND RAMSAY'S GARESFIELD COLLIERIES, AND MANUFACTURER OF FIRE BRICKS,

AT DERWENTHAUGH, NEAR NEWCASTLE-UPON-TYNE.

EXPERIMENTS IN GASMAKING, AT THE WESTERN GASWORKS, LONDON, WITH RAMSAY'S NEWCASTLE CANNEL COAL.

G. H. PALMER, Esq., Engineer to the Company.

An elaborate report, drawn up and signed by Dr. Leeson, of St. Thomas's Hospital, and Dr. Miller, of King's College, professors of chemistry, the result of several experiments, furnishes the following facts:—"A retort was on one occasion charged with 1¼ bushel of Ramsay's cannel coal, weighing exactly 1 cwt. At the expiration of two hours and eight minutes the charge was drawn; the coke measured 2 bushels and ¾ of a peck, and weighed 784lb. It had swelled and caked together considerably—100 parts by weight of coal yielded 70 parts of coke; or, if the bulk of the coke be compared to that of the coal, 100 parts of coal yielded by measure 145 parts of coke. The gas furnished by this operation was then subjected to the usual tests for sulphuretted hydrogen, for ammonia, and for carbonic acid, and was found to be free from all these impurities." Further experiments were made for the purpose of testing the consumptive quality of the gas with various burners; and this was their issue:—With a flame 3½ inches in height, produced by one of Retty's burners containing 24 apertures, arranged in a circle ¾ of an inch in diameter, the consumption was in one experiment 0·85 cubic feet in 14½ minutes; and by a second experiment 0·366 cubic feet in 2 minutes.

	Cubic Feet.
The first experiment, therefore, gives per hour	3·41
The second	3·66
And the mean is	3.55"

A second experiment was tried, and the results subjoined were obtained, according to their signed statement:—"Two retorts were at this time used, charged with Ramsay's cannel coal, the entire charge measuring two bushels, and weighing 152lb. The heat was maintained for a longer period, the charge not been drawn till four hours had elapsed. The coke, which was considerably swollen and caked together, weighed 103lb., and measured 2⅘ bushels and four-fifths of a peck. 100lb. of coal, therefore, furnished 67·7lb. of coke; or, if estimated by measure, 100 bushels of coal would furnish 135 bushels of coke. 656 cubic feet of gas were registered by the meter, which would amount to 9667 cubic feet per ton of coal. The smell of sulphur on drawing the coke was very trifling. The gas was tested as before for impurities, and was found to be free from them.

The illuminating power of the Western gas was next tried. In 17 min. 10 sec., 0·8 cubic feet were consumed, or 2·79 cubic feet, per hour. Of the ordinary gas, in 5 min. 8 sec., 0·45 cubic feet were consumed or 5·26 cubic feet per hour. By this test, therefore, 100 cubic feet of Mr. Palmer's gas gave a light in burning equal to 188 cubic feet of the ordinary gas. A second trial was made, substituting Wheatstone's photometer for Bunsen's, the photometer being placed midway between the lights, and both were regulated till they gave equal amounts of light. Of Mr. Palmer's gas, in 8 min. 37 sec., 0·4 cubic feet were consumed or 2·78 cubic feet per hour. Of the ordinary gas in 15 min. 10 sec., 1·3 cubic feet were consumed, or 5·14 cubic feet per hour. By this test, therefore, 100 cubic feet of Mr. Palmer's gas gave a light equal to 185 cubic feet of the ordinary gas. With Ritchie's photometer the result was identical. Still further to test the gas, a jet of each was burnt from the same aperture, in succession, by Adcock's jet, under an equal pressure (half an inch of water). The flame of Mr. Palmer's gas was 2·0 inches in height; of the other gas 1·1. The proportion by this test is 100 of Mr. Palmer's equal 181 of the common gas.

By a series of experiments with one of Mr. Retty's burners, which gave a flame of 3½ inches in height, the consumption of Mr. Palmer's gas, which, with this burner, furnished a flame of extraordinary purity and whiteness, amounted, in one experiment, to 3·28 cubic feet per hour; in the second, to 3·20 cubic feet per hour; or, by a mean of the two, 3·24 cubic feet per hour; and it gave at a distance of 90 inches from the photometer a light equal to the standard candle at 26¼ inches. The same burner supplied with the ordinary gas gave with the same height of flame an hourly consumption of 6·5 cubic feet, or just double that of Mr. Palmer's. The light was nearly equal in brilliancy as the gas at the distance of 90 inches from the photometer was equal to that of the candle at 26¼ inches. Mr. Palmer's, therefore, is equal to 11·75 candles; the common gas to 11·53 candles; but, as the consumption of the common gas was double, 100 cubic feet of Mr. Palmer's would give a light equal to rather more than 200 of the ordinary gas.

These eminent chemists, in conclusion, state the following as the results of their double series of experiments, arrived at after several hours' severe labours. Taking the mean of all these results, they find, since the proportion is by

Bunsen's Photometer	100	188
Ritchie's	100	185
Wheatstone's	100	185
Adcock's	100	101
By the candle	100	203

that 100 cubic feet of Mr. Palmer's gas, of specific gravity 0·731, gives a light, when trimmed, equal to that of 188 cubic feet of the gas in common use, of specific gravity 0.422.

ANALYSIS OF "RAMSAY'S GARESFIELD COKE," MADE FROM HIS GARESFIELD COAL, BY DOCTOR RICHARDSON, OF NEWCASTLE-UPON-TYNE.

Carbon	97·60
Ashes	1.55
Sulphur	0·85

N.B. This coke is the purest production of the Newcastle and Northern Coalfield, and is in great request for foundry and railway purposes.

GUTTA PERCHA TUBING

GUTTA Percha Tubing, being unaffected by moisture, acids, alkalies, grease, &c., is useful for the conveyance of Water, Oil, Chemicals, Liquid Manure, &c. It is peculiarly valuable for Drain and Soil Pipes. In case of any stoppage, an incision can be made in the tubing with a sharp knife, and readily closed again by means of a warm iron. Its strength is extraordinary; the small half-inch diameter tubing having resisted a pressure of 250lb. on the square inch without bursting.

Gutta Percha is totally impervious to wet, and may be steeped in water or buried in damp or marshy grounds for years. IT IS NOT SO LIABLE TO INCRUSTATION, and, from its peculiar property as a non-conductor, is not affected so soon by the frost of winter as metal piping.

The smaller sizes of the Tubing may be had in lengths of from 100 to 400 feet, and the larger sizes of 50 feet, each.

The extraordinary power possessed by Gutta Percha Tubing as a CONDUCTOR OF SOUND renders it invaluable for conveying messages from one room or building to another.

Every variety of Gutta Percha Articles manufactured at the Company's Works, Wharf-road, City-road, London; and sold by their Wholesale Dealers in town or country.

ESTABLISHED 1827.

JOHN BEVERLEY and SON, Manufacturers of the Improved METALLIC GAS METERS, 68, BRIGGATE, LEEDS,

In returning thanks to Gas Companies, and those who have been pleased to patronize the use of their Gas Meters, take leave to observe that they still continue to make the outer cases of Cast Iron, which are carefully fitted and put together with screws, and the interior wheel or drum of a composition that has stood the test of years.

Dealers in all kinds of Gas Fittings, Tubing, &c. &c.

M. KELLY, Cast Iron Wharf, 31, Bankside, London.—Retorts of superior quality, Socket and Flange Pipes, Bends, Branches, Syphons, and every description of Castings for Gas and Water Works. Gasometers, Tanks, Purifiers, Condensers, &c., erected complete, or the materials supplied.

Gas Valves and Sluice Cocks on an improved principle. Patent Gas Tubing and Connections.

A stock of the above articles kept.

The Pipes and Retorts supplied by M. K. are cast vertically, which ensures soundness and equality of thickness throughout.

THE Economic Gas-cooking Stove.—With this Registered Patent Apparatus, COOKING by GAS is performed with little trouble, cleanliness, and economy; and, if necessary, where there is no chimney. Those who have not seen how much heat can be obtained from a few jets of Gas, scientifically applied for Chemical, Manufacturing, or Culinary Purposes, are invited to inspect the different kinds of Apparatus at C. RICKET'S Manufactory, 5, Agar-street, Strand, opposite Charing-cross Hospital.

THOMAS ALLAN and CO., SPRING-BANK IRONWORKS, GLASGOW, have always on hand a large assortment of GAS PIPES and other Castings connected with Gas Works, which they beg to solicit orders for.

WEST BROTHERS and CO.,

LATE

THOMAS WEST,

GAS METER MANUFACTURERS, BRASS FOUNDERS, &c., UNION-STREET, OLDHAM.

Station and Experimental Meters, Gas Pressure Registers, Gauges, Experimental Gas Holders, Governors, Slide Valves, &c. &c.

ESTABLISHED IN 1834.

S. KING, Gas Meter Manufacturer, 21, Cock-lane, West Smithfield, London.

Meters made of the best materials and workmanship, with all the recent improvements, and warranted correct in registration.

M. SHEEN, Gas and Railway Lantern Maker, 90½, Holborn-hill, begs to inform Managers of Gas Works, &c., that she continues to contract and supply Lanterns on reasonable terms, and keep them in repair by the year.

London: Printed by THOMAS GREAVES BARLOW, of 32, Bucklersbury, parish of St. Stephen, Walbrook (at the office of Palmer and Clayton, 10, Crane-court, Fleet-street); and published by him at the Office, No. 21, Paternoster-row, in the parish of St. Faith, all in the City of London.—Monday, September 10, 1849.